Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

1. (Currently amended) A method for selecting at least one antigen-specific B cell from a mixture of cells, said method comprising:
   (A) providing a mixture of cells comprising B cells;
   (B) providing a first composition comprising:
      (a) a first core particle with at least one first attachment site; and
      (b) at least one antigen or antigenic determinant with at least one second attachment site, wherein said second attachment site being selected from the group consisting of:
         (i) an attachment site not naturally occurring with said antigen or antigenic determinant; and
         (ii) an attachment site naturally occurring with said antigen or antigenic determinant;

      wherein said second attachment site associates through at least one covalent bond with ~~is capable of association to~~ said first attachment site such that ~~and wherein~~ said antigen or antigenic determinant and said first core particle interact through said association to form an ordered and repetitive antigen array;
   (C) contacting said mixture of cells with said first composition;
   (D) labeling said first composition with a first labeling compound;
   (E) labeling said B cells in said mixture of cells with a second labeling compound; and
   (F) selecting at least one B cell which is positive for said first and said second labeling compound.
2. (Cancelled)

3. (Original) The method of claim 1, wherein said first core particle is a virus-like particle.

4. (Original) The method of claim 3, wherein said at least one antigen or antigenic determinant is bound to said virus-like particle.

5. (Cancelled)

6. (Cancelled)

7. (Currently amended) The method of claim 3, wherein said virus-like particle comprises recombinant proteins, or fragments thereof, of [[a]] an RNA-phage.

8. (Cancelled)

9. (Original) The method of claim 3, wherein said virus-like particle comprises recombinant proteins, or fragments thereof, of RNA-phage Qβ.

Claims 10-14 (Cancelled)

15. (Original) The method of claim 1, further comprising the step of isolating said at least one antigen-specific B cell which is positive for said first and said second labeling compound.

Claims 16-18 (Cancelled)

19. (Original) The method of claim 1, wherein said first labeling compound is a first fluorochrome.

20. (Original) The method of claim 1, wherein said second labeling compound is a second fluorochrome.

Claims 21-31 (Cancelled)

32. (Currently amended) The method of claim 1, wherein said labeling of said B cells is effected with a first set of at least one first targeting molecule, wherein said first targeting molecule is specific for at least one B cell marker, and wherein said first targeting molecule is labeled with said second labeling compound, wherein said second labeling compound is a second fluorochrome.

33. (Cancelled)

34. (Cancelled)

35. (Original) The method of claim 32, wherein said first targeting molecule is F(ab')2 specific for IgG.

36. (Cancelled)

37. (Original) The method of claim 1, further comprising labeling said mixture with a second set of at least one second additional targeting molecule, wherein said at least one second targeting molecule is specific for at least one marker unique for cells other than isotype-switched B cells, and wherein said at least one second targeting molecule is labeled with a third labeling compound.

38. (Cancelled)

39. (Original) The method of claim 37, wherein said first labeling compound is a first fluorochrome, said second labeling compound is a second fluorochrome, and said

third labeling compound is a third fluorochrome, said first, second, and third fluorochromes yielding different colors upon activation.

Claims 40-43 (Cancelled)

44. (Currently amended) The method of claim 1, wherein said mixture of cells is a mixture of splenocytes from immunized animals, said animals being immunized with a second composition comprising:

(a) a second core particle with at least one first attachment site; and

(b) at least one antigen or antigenic determinant with at least one second attachment site, wherein said second attachment site ~~being~~ is selected from the group consisting of:

(i) an attachment site not naturally occurring with said antigen or antigenic determinant; and

(ii) an attachment site naturally occurring with said antigen or antigenic determinant,

wherein said second attachment site is associates with ~~capable of association to~~ said first attachment site; and

wherein said antigen or antigenic determinant and said second core particle interact through said association to form an ordered and repetitive antigen array.

45. (Cancelled)

46. (Cancelled)

47. (Currently amended) The method of claim 44, wherein said second core particle is a virus-like particle, wherein said at least one antigen or antigenic determinant is bound to said virus-like particle.

48. (Cancelled)

49. (Currently amended) The method of claim 47, wherein said virus-like particle comprises ~~recombinant~~ proteins~~, or fragments thereof,~~ selected from the group consisting of:

(a) recombinant proteins of Hepatitis B virus;
(b) recombinant proteins of measles virus;
(c) recombinant proteins of Sindbis virus;
(d) recombinant proteins of Rotavirus;
(e) recombinant proteins of Foot-and-Mouth-Disease virus;
(f) recombinant proteins of Retrovirus;
(g) recombinant proteins of Norwalk virus;
(h) recombinant proteins of Alphavirus;
(i) recombinant proteins of human Papilloma virus;
(j) recombinant proteins of Polyoma virus;
(k) recombinant proteins of bacteriophages;
(l) recombinant proteins of RNA-phages;
(m) recombinant proteins of Ty;
(n) recombinant proteins of Qβ-phage;
(o) recombinant proteins of GA-phage;
(p) recombinant proteins of fr-phage;
(q) fragments of any of the recombinant proteins from (a) to (p); and
(r) variants of any of the recombinant proteins from (a) to (q).

50. (Cancelled)

51. (Cancelled)

52. (Currently amended) The method of claim ~~51~~ 47, wherein said virus-like particle is a virus like particle of an RNA-phage, wherein said RNA phage is selected from the group consisting of:

(a) bacteriophage Qβ;
(b) bacteriophage R17;
(c) bacteriophage fr;
(d) bacteriophage GA;
(e) bacteriophage SP;
(f) bacteriophage MS2;
(g) bacteriophage M11;
(h) bacteriophage MX1;
(i) bacteriophage NL95;
(j) bacteriophage f2;
(k) bacteriophage PP7; and
(l) bacteriophage AP205.

53. (Original) The method of claim 47, wherein said virus-like particle comprises recombinant proteins, or fragments thereof, of RNA-phage Qβ.

Claims 54-56 (Cancelled)

57. (Original) The method of claim 44, wherein said antigen or antigenic determinant of said second composition is the same as said antigen or antigenic determinant of said first composition.

58. (Cancelled)

59. (Currently amended) A method for generating monoclonal antibodies comprising the steps of providing at least one antigen-specific B cell selected by ~~the method~~

any one of the methods of claim 1 or claim 44 and fusing said at least one antigen-specific B cell with a myeloma cell line.

60. (Cancelled)

61. (Original) A method for generating monoclonal antibodies or antibody fragments comprising the steps of isolating at least one genetic element encoding the immunoglobulin or parts of the immunoglobulin expressed by said at least one antigen-specific B cell selected by the method of claim 1 and expressing said genetic element.

62. (Original) The method of claim 61, wherein said genetic element is expressed as a fusion molecule.